

CLAIMS:

1. A mark forming apparatus comprising:  
a guide needle for forming a mark;  
a positioning mechanism for positioning said guide needle above a fault location of a semiconductor device;  
a solution supply device for supplying a solution containing a coloring agent and a volatile solvent to the fault location until it touches a tip of said guide needle; and  
a heating unit for evaporating the volatile solvent to form a mark consisting of the coloring agent surrounding the fault location.
2. A mark forming apparatus as claimed in claim 1, in which said volatile solvent is any one of ketone, ether and alcohol.
3. A mark forming apparatus as claimed in claim 1, in which said volatile solvent is lower alcohol.
4. A mark forming apparatus as claimed in claim 1, in which said heating unit comprises an irradiating device for irradiating visible rays, and the evaporation of the volatile solvent is caused by irradiation of the visible rays.
5. A mark forming apparatus as claimed in claim 4, in which said irradiating device comprises a light source for generating visible rays and an optical system with an objective lens.
6. A mark forming apparatus as claimed in claim 1, in which said guide needle is a probe needle.
7. A mark forming method comprising the steps of:  
positioning a guide needle for forming a mark above a fault location of a semiconductor device;  
supplying a solution containing a coloring agent and a volatile solvent to the fault location until it touches a tip of the guide needle; and  
evaporating the volatile solvent to form a mark consisting of the coloring agent surrounding the fault location.
8. A mark forming method as claimed in claim 7, in which said volatile solvent is any one of ketone, ether and alcohol.
9. A mark forming method as claimed in claim 7, in which said volatile solvent is lower alcohol.

10. A mark forming method as claimed in claim 7, in which said evaporation of the volatile solvent in said step of forming a mark surrounding the fault location is caused by irradiation of visible rays.

11. A mark forming method as claimed in claim 10, in which said visible rays are irradiated through an optical system comprising an objective lens.

12. A mark forming method as claimed in claim 7, in which said guide needle is a probe needle.

13. An analyzing apparatus comprising:  
a probe needle for detecting a fault location of a semiconductor device;  
an observation device for observing and identifying a location of said probe needle;

a positioning mechanism for positioning said probe needle above the fault location as detected;

a solution supply device for supplying a solution containing a coloring agent and a volatile solvent to the fault location until it touches a tip of said probe needle; and

a heating unit for evaporating the volatile solvent to form a mark consisting of the coloring agent surrounding the fault location.

14. An analyzing apparatus as claimed in claim 13, in which said volatile solvent is any one of ketone, ether and alcohol.

15. An analyzing apparatus as claimed in claim 13, in which said volatile solvent is lower alcohol.

16. An analyzing apparatus as claimed in claim 13, in which said observation device comprises a light source for generating visible rays and an optical system with an objective lens.

17. An analyzing apparatus as claimed in claim 13, in which said observation device comprises a microscope with a light source for generating visible rays and an optical system with an objective lens.

18. An analyzing apparatus as claimed in claim 13, in which said heating unit comprises an irradiating device for irradiating visible rays, and the evaporation of the volatile solvent is caused by irradiation of the visible rays.

19. An analyzing apparatus as claimed in claim 18, in which said irradiating device comprises a light source for generating visible rays and an optical system with an objective lens.

20. An analyzing apparatus as claimed in claim 19, in which said irradiating device also serves as said observation device.